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A multicenter randomized controlled trial of low-dose single-wavelength red light in the decrease of myopia incidence rate in the setting of school

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The study is a randomized controlled trial aiming to explore the effectiveness of low-dose single-wavelength red light on the prevention of new myopia cases and on the decrease of the myopia incidence rate in the setting of school. Myopia is defined as cycloplegic spherical equivalent (SE) ≤ -0.50D. The primary outcome is myopia incidence rate in intervention and control groups; the second outcome is the shift of SE and axial length in intervention and control groups. A chi-square test will be used to examine the significance of the difference in myopia incidence rate between intervention and control groups. Data on right eyes will be used for the analysis for secondary outcomes if no significant difference in data of interest between right and left eyes. Significance for continuous data comparison will be examined using an independent t-test if the assumption of normality is met, otherwise, a non-parametric method will be used. If applicable, clinical critical value will be used to code continuous data into categorical version and percentage will be calculated with its comparisons examined using the chi-square test.